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NESCent

(National Evolutionary Synthesis Center)

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NESCent

- NESCent is a NSF-funded center designed to promote evolutionary biology specifically through the concept of *synthesis*.
- It represents a collaborative effort by three Research Triangle universities: Duke, NC State, and UNC-Chapel Hill.

NESCent

- Residents include 7 sabbatical faculty, 15 post-docs, and an informatics team.
- Hosts periodic working groups and catalysis meetings.
- Participates in community education and outreach.

NESCent + CToL + ZFIN

- Evolutionists describe phenotypes among species
- Geneticists describe phenotypes among genotypes/mutants
- Common annotation methods could provide a data linkage between evolution and genomics (candidate genes, character independence, phylogenetics, etc.)

Character Matrix

1. Color of foliage bud:
   0 - red
   1 - brown
2. Shape of seed:
   0 - ovoid
   1 - ellipsoid
3. Corolla length:
   0 - <2 cm
   1 - 2-5 cm
   2 - >5 cm

Character Matrix

	1	2	3
Species one	0	1	1
Species two	0	1	0
Species three	1	1	1

Matrix from EQ data

- Find all EQ statements that describe values for same character, put in column of matrix
- Not easy to infer character from value statements

PATO attributes & values

- Leaves = values, others = attributes?
- But, some leaves are attributes (“acceleration”, “amplitude”)
- Some values are not leaves (“blue”, parent of “bright blue”, etc.)

EQ in character format

- Initial "slim" attribute and value subsets: http://www.duke.edu/~jpb15/quality-AttributeValue.obo
- Extend EQ data formats to include information on character definition & grouping?